



**General Certificate of Education (A-level)**  
**June 2011**

**Critical Thinking**

**CRIT4**

**(Specification 2770)**

**Unit 4: Reasoning and Decision Making.**

**Final**

***Mark Scheme***

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Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation events which all examiners participate in and is the scheme which was used by them in this examination. The standardisation process ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for standardisation each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed and legislated for. If, after the standardisation process, examiners encounter unusual answers which have not been raised they are required to refer these to the Principal Examiner.

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## Critical Thinking Mark Scheme

### INTRODUCTION

The nationally agreed assessment objectives in the QCA Subject Criteria for Critical Thinking are:

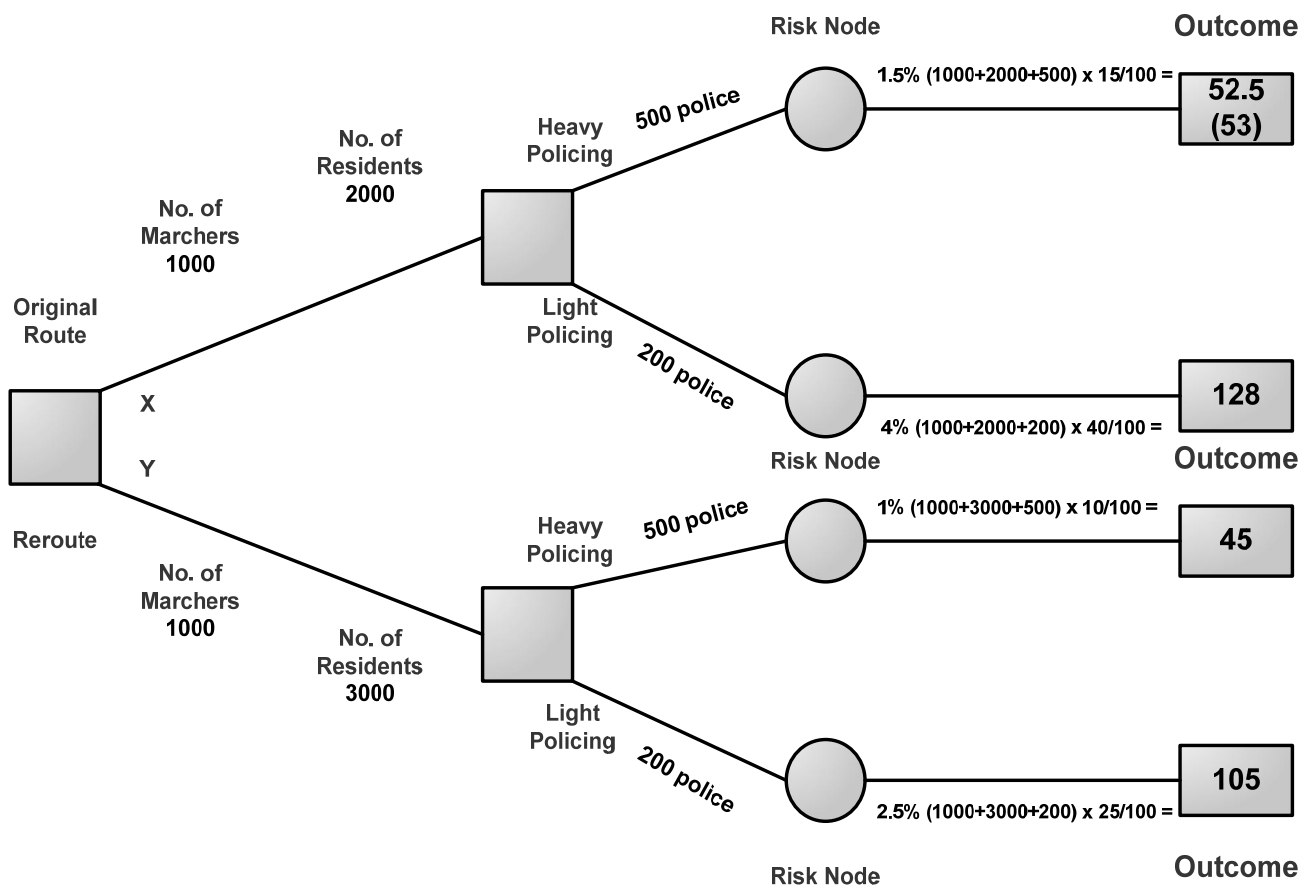
- A01** Analyse critically the use of different kinds of reasoning in a wide range of contexts.
- A02** Evaluate critically the use of different kinds of reasoning in a wide range of contexts.
- A03** Develop and communicate relevant and coherent arguments clearly and accurately in a concise and logical manner.

- Marks are allocated to the assessment objectives according to the nature of each question and what it is intended to test.
- For Questions 1–8, Examiners need only provide a total mark for each of the candidates' answers. They do not need to provide a breakdown by Assessment Objective.
- For Question 9, marks should be awarded according to the generic marking grid.
- Candidates should be able to achieve the highest marks with a selection of relevant points, not necessarily the complete range.
- **Indicative content is provided as a guide for examiners. It is not intended to be exhaustive and other valid points must be credited.**

## Unit 4 Reasoning and Decision Making

### Section A

No.	Question	AO:	1	2	3
1	<p>Decide what should be done <u>solely</u> on the basis of minimising likely numbers of injuries to participants irrespective of who they are.</p> <p>Do this by completing the decision tree below using the above information, and calculating the probable outcomes in terms of numbers of injuries resulting from each option.</p> <p>Use your calculations to justify your decision.</p> <p style="text-align: right;">(8 marks)</p>				
			4		4



No.	Question	AO:	1	2	3
	<p>The decision tree should be completed as above:</p> <p>Calculations / reasoning:</p> <p>If decide on route x with heavy policing total number of people involved will be 500 police + 1000 marchers + 2000 residents = 3500 with a 1.5% risk of injury, which = 53 injuries.</p> <p>If decide on route x with light policing total number of people involved will be 200 police + 1000 marchers + 2000 residents = 3200 with a 4% risk of injury, which = 128 injuries.</p> <p>If decide to re-route to y with heavy policing total number of people involved will be 500 police + 1000 marchers + 3000 residents = 4500 with a 1% risk of injury, which = 45 injuries.</p> <p>If decide to re-route to y with light policing total number of people involved will be 200 police + 1000 marchers + 3000 residents = 4200 with a 2.5% risk of injury, which = 105 injuries.</p> <p>Therefore you should decide to re-route the march to y and use heavy policing as this will result in significantly fewer injuries 450) than any of the other options.</p>				

No.	Question		AO:	1	2	3
	<b>BANDS</b>	<b>MARKS</b>				
	Band 1	5 – 8	<p>At the top of this band (7–8) everything is correct, decision tree completed satisfactorily, and calculations accurate and clear, and of course, the right decision made.</p> <p>At the lower end of this band (5–6) decision tree satisfactory, method correct, but one or two errors in arithmetic.</p>			
	Band 2	1 – 4	<p>At the top of this band (3–4) decision tree is only partially completed, and perhaps more serious mistakes such as getting the percentages mixed up or the populations reversed. Nevertheless, the right method is adopted of adding police, marchers, and residents and calculating a percentage to find out numbers of injuries.</p> <p>At the bottom of this band (1–2) decision tree is either avoided altogether or only patchily completed. There must be some semblance of understanding of the method eg. populations are added up but no percentage taken. Or perhaps percentage taken of only residents and marchers because the candidate assumes only 'civilian' injuries count.</p>			

No.	Question	AO:	1	2	3
2	<p><b>Suggest <u>four</u> reasons why the results of the YouGov poll <u>may</u> not be significant in relation to how people would vote in a general election.</b></p> <p><b>Assume the figures are truly reported, the sample is representative, and that YouGov is not biased.</b></p> <p style="text-align: right;"><b>(8 marks)</b></p> <p>Possible criticisms may include:</p> <ul style="list-style-type: none"> <li>• Presentation – stats are presented in rather confusing and perhaps inconsistent formats. For example, we are given in quick succession: percentages, fractions, and numbers; so it's hard to be clear about what we're being told.</li> <li>• 22% of people questioned would 'seriously consider' voting for the BNP. But we're not told what the previous percentage was, so the significance of this is unclear.</li> <li>• There is a slight mismatch of terms used. Latterly it is said 22% would 'consider' voting for the BNP (not 'seriously consider' as said earlier). Nor is it clear whether the voting in a general election would be the same as in an EU or local, general.</li> <li>• We are told that 2/3 dismiss BNP and the rest is unsure, yet in the next paragraph it says the 'proportion supporting the BNP is up from 2% a month ago to 3%.' The problem is how anyone can be truly said to support a party if they are unsure.</li> <li>• It's not made clear whether the rise from 2% to 3% support for the BNP is significant. True, from one point of view it's only a 1% rise but seen as a relative increase it's a 50% rise numerically (but from a small base of course). Is this significant or not?</li> <li>• <i>Considering that the BNP have a point</i> (re. indigenous British people) does not mean the same as supporting the BNP in an election.</li> <li>• We're told that 'more than half' of those polled thought the BNP had a point, etc. This is too vague as it could be anything from 51% to 99%.</li> <li>• This is only one poll immediately after the programme. Polls change rapidly even over the short term, and no election was imminent. Therefore the poll may not indicate very much at all about future voting intentions.</li> <li>• The poll did not ask whether people's views of the BNP were affected as a result of Nick Griffin's appearance on Question Time. So we do not know whether this event affected people's attitudes at the time, and / or whether the effect would last. (E.g. there may have been a 'sympathy vote' immediately after the programme.)</li> </ul>	4	4		

No.	Question	AO:	1	2	3
	<p>NB: As candidates are told to assume that the figures are representative, there is no credit for suggesting that they may not be. Nor is there credit for pointing out that the increase in BNP support (if there is an increase) would not be sufficient to win an election.</p> <p>These are sample responses: other points may be accepted if they identify a weakness in the statistical evidence as a guide to future voting.</p> <p>1 mark for identifying each point; 2 if clearly presented and its effect on significance explained.</p>				
3	<p><b>As a police detective, you are questioning a man suspected of being present at a violent protest for free speech.</b></p> <p><b>You are using a lie detector, which has an 80% accuracy rate.</b></p> <p><b>You ask him four questions.</b></p> <p><b>After each question the lie detector says that his answer was not a lie.</b></p> <p><b>Relying <u>solely</u> on the lie detector results, what are the chances that all of his answers were honest?</b></p> <p style="text-align: right;"><b>(4 marks)</b></p> <p>Although each of his answers on its own has an 80% chance of being honest, the chances of them all being honest are <math>80\% \times 80\% \times 80\% \times 80\% = 40.96\%</math>. Allow 41%, 0.41 – or 40% 0.4 if given as approximations following appropriate calculation.</p> <p>Correct method, multiplying percentages, but arithmetical error: award 23 marks.</p> <p>Candidates who multiply 3 of the percentages – 1 mark.</p>		1		3



## Section B

No.	Question	AO:	1	2	3
<b>Question 4 refers to Document A</b>					
<b>4</b>	<p><b>Given what Singer says in paragraph 11, what must he assume about David Irving's denial of the Holocaust?</b></p> <p style="text-align: right;"><b>(2 marks)</b></p> <p>Singer must assume that Irving's denial of the Holocaust was not an intentional or predictable incitement to hatred that could lead to violence, etc. (1 only if the element of intention or reasonable expectation is omitted.)</p>		<b>1</b>	<b>1</b>	
<b>Question 5 refers to Document B</b>					
<b>5</b>	<p><b>The following comments were made online by Kevin, in response to Sir Elton John's remarks in Document B.</b></p> <p style="padding-left: 40px;"><b>Kevin, Ontario, Canada says:</b></p> <p style="padding-left: 80px;"><b>"Why does it follow that as he was single, Jesus must have been gay? While I'm not religious, I feel that this nonsense will cause great offence to those who were. Why do these people feel the need to claim everybody from history was gay? Would he dare to claim a Muslim prophet had been gay? No, thought not."</b></p> <p><b>To what extent are Kevin's comments a fair response to Sir Elton John's remarks?</b></p> <p style="text-align: right;"><b>(8 marks)</b></p> <p>Possible answers:</p> <p>1. Re. 'Why does it follow that as he was single, Jesus must have been gay?'</p> <p style="padding-left: 40px;">Straw man. Elton John said no such thing. Kevin is simply assuming he was thinking along these lines and reading this into the text.</p> <p>2. Re. 'Why do these people feel the need to claim everybody from history was gay?'</p> <p style="padding-left: 40px;">Another Straw man and an over-generalisation. On the basis of one example (Jesus) it is assumed that Elton John is painting all historical figures as gay.</p>			<b>5</b>	<b>3</b>

No.	Question	AO:	1	2	3
3	<p>Re: 'Would he dare to claim a Muslim prophet had been gay? No, thought not.'</p> <p>What's wrong with this is that it contradicts his earlier claim that Elton John feels the need to claim everybody from history was gay. Both can't be true.</p>				
4.	<p>Re: 'Would he dare to claim a Muslim prophet had been gay? No, thought not.'</p> <p>Kevin has no evidence at all based on what Elton John has said, so Kevin's accusation is merely baseless supposition.</p>				
5.	<p>Re: "These people..."</p> <p>Unwarranted generalisation from the single instance of Elton John, to all or most gay people wanting to claim everyone in history was gay.</p> <p>NB. There is also an underlying pejorative tone about the term "these people".</p>				
6.	<p>Re: "I feel that this nonsense will cause great offence to those who were (religious)".</p> <p>Although calling it nonsense is a bit dismissive, the comment about Elton's remarks causing great offence to religious people, seems fair on the whole, as this is the likely result.</p>				

No.	Question	AO:	1	2	3								
	<table><tr><th>Level &amp; Range</th><th>Descriptors</th></tr><tr><td>L3: 7–8</td><td><p>For three or more relevant, perceptive, and well-developed critical comments supporting or challenging the argument and used to support an evaluative judgement about the argument as a whole.</p><p>The candidate demonstrates a clear and perceptive understanding of the author’s argument/s and claims.</p><p>(A ‘well-developed’ comment is one that <i>clearly and correctly</i> explains a point of strength or weakness, such as a flaw or questionable assumption; a strong premise; a safe inference, plausible explanation, etc.)</p></td></tr><tr><td>L2: 4–6</td><td><p>For two or more relevant and adequately explained points (4) – or partially explained (3) – relating to the effectiveness or otherwise of the argument, and / or warrant for the claims</p><p>Candidate demonstrates broad understanding of the author’s argument or claim/s.</p></td></tr><tr><td>L1: 1–3</td><td><p>For some relevant evaluative judgement related to the strength or weakness of the argument with some basic (usually under-developed) attempt at explanation or justification (2–3).</p><p>May not have clear grasp of the author’s reasoning.</p><p>Some relevant critical comment, e.g. the name of an appropriate but unexplained flaw. (1)</p></td></tr></table>	Level & Range	Descriptors	L3: 7–8	<p>For three or more relevant, perceptive, and well-developed critical comments supporting or challenging the argument and used to support an evaluative judgement about the argument as a whole.</p> <p>The candidate demonstrates a clear and perceptive understanding of the author’s argument/s and claims.</p> <p>(A ‘well-developed’ comment is one that <i>clearly and correctly</i> explains a point of strength or weakness, such as a flaw or questionable assumption; a strong premise; a safe inference, plausible explanation, etc.)</p>	L2: 4–6	<p>For two or more relevant and adequately explained points (4) – or partially explained (3) – relating to the effectiveness or otherwise of the argument, and / or warrant for the claims</p> <p>Candidate demonstrates broad understanding of the author’s argument or claim/s.</p>	L1: 1–3	<p>For some relevant evaluative judgement related to the strength or weakness of the argument with some basic (usually under-developed) attempt at explanation or justification (2–3).</p> <p>May not have clear grasp of the author’s reasoning.</p> <p>Some relevant critical comment, e.g. the name of an appropriate but unexplained flaw. (1)</p>				
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## Section C

No.	Question	AO:	1	2	3
<b>Questions 6 to 8 refer to Document 1</b>					
<b>6</b>	<p><b>In paragraph 6 Peter Hain comments that,</b></p> <p style="padding-left: 40px;"><b>“Never in 30 years has the BBC invited a convicted criminal found guilty of inciting racial hatred on to this flagship programme.”</b></p> <p><b>Based on the above comment Peter Hain wants us to draw the conclusion that, <i>the BBC should not invite Nick Griffin on to Question Time.</i></b></p> <p><b>Critically assess the support his comment provides for the inferred conclusion.</b></p> <p style="text-align: right;"><b>(6 marks)</b></p> <p>The main objection to the inference is that it is an appeal to history, tradition, past practice. It doesn't follow from 30 years of not inviting people such as convicted racists on to the programme that there can't be a first time and / or that times have not changed.</p> <p>Alternatively, it could be objected that Hain's inference relies on the assumption that no one with a past conviction – or more specifically a conviction for inciting racial hatred – should thereafter appear on QT. This begs the question if given as a sole reason for not inviting Griffin. If applied as a general principle it would rule out people who had reformed / served their sentences etc.</p> <p>Hain's reasoning also implies that only those with beliefs and attitudes that fall within a certain (acceptable) range should appear on QT, which arguably robs the programme of its point, and raises problems of where to draw the line.</p> <p>On the positive side it could be argued, with Hain, that the BBC has maintained their policy of excluding such people for good reason, and that it would be wrong to set a new precedent, possibly a dangerous one, of having Griffin on QT, given his declared views.</p> <p>5–6 marks for two or more valid and well-presented points and a clear overall evaluative statement in answer to the question. (This may include a balanced response between positive and negative points.)</p> <p>3–4 marks for two or more points with some development, and possibly lacking an overall verdict.</p> <p>1–2 for one or more broadly relevant points with no development.</p>				
			<b>2</b>	<b>4</b>	

No.	Question	AO:	1	2	3
7	<p>In paragraph 7, Mark Thompson claims that “if there were to be any election – local or national – tomorrow, the BNP would still be able to field candidates.”</p> <p>How does this claim support his earlier reason that, “the court case did not ‘legally inhibit’ the BBC from allowing Mr Griffin on the programme”?</p> <p style="text-align: right;"><b>(4 marks)</b></p> <p>In short: If the court case against Griffin does not prevent him from standing for election, or his party from fielding candidates, then – by analogy – there is no <i>legal</i> obstacle to the BBC inviting him on to QT. That does not mean that the BBC has to / should invite him, but likewise there is no reason not to, as a result of the court case.</p> <p>3–4 marks for clearly stating the argument and / or the analogy and specifying that the argument is on legal grounds.</p> <p>1–2 marks for less precise formulations such as: If Griffin can stand for election, he can be on the programme.</p>			4	
8	<p>In paragraphs 7 to 9 a further <u>two</u> reasons are given in support of the BBC’s decision to allow Nick Griffin onto Question Time.</p> <p>Identify these <u>two</u> reasons (you may paraphrase).</p> <p style="text-align: right;"><b>(4 marks)</b></p> <p>Credit may be given for any two of the following:</p> <ul style="list-style-type: none"> <li>• Hain’s argument is a case for censorship (along with the assumption that censorship is not desirable).</li> <li>• Only the government can bar a party from the airwaves and, as it hasn’t done so, it is not the BBC’s job to do it.</li> <li>• QT is an opportunity for the public to question people of all political hues.</li> <li>• The BNP’s success in the last election (940 000 votes), together with the fact that we let other small parties on to the programme means that democratically / out of fairness the same should apply to the BNP.</li> </ul> <p>2 marks for each; 1 if partially or imprecisely expressed – e.g. ‘BNP got 940 000 votes.’</p>		4		

No.	Question	AO:	1	2	3
You may use <u>any</u> of the documents in answering Question 9.					
9	<p><b>Decide what the British government’s policy should be in regard to the question of what limits to impose on free speech.</b></p> <p><b>In your answer you should:</b></p> <ul style="list-style-type: none"><li>• <b>consider at least two different options, and compare them with respect to</b><ul style="list-style-type: none"><li>– <b>Their consequences, whether good or bad</b></li><li>– <b>The likelihood of these consequences occurring</b></li><li>– <b>And their importance / significance</b></li></ul></li><li>• <b>state your decision clearly</b></li><li>• <b>make use of moral principles or values in your reasoning</b></li><li>• <b>make use of the source documents to support your argument.</b></li></ul> <p style="text-align: right;"><b>(26 marks)</b></p> <p>Expect a wide variety of material to be used in candidates’ arguments, ranging from BNP on Question Time, through Holocaust denial, offensive pictures of Jesus, cartoons of Muhammad, gay Jesus, anti fascism violence, imprisonment of Irving, etc.</p> <p>Distinctions may be drawn around the context in which free speech is exhibited – whether public or private, influential, as in the press or on TV, or trivial, as in remarks made down at the pub.</p> <p>Likelihood of violence needs to be addressed. The difference between harm and offence, and where to draw the line, is a matter of great relevance. When does freedom become licence?</p> <p><b>Options may range from</b></p> <p>No restriction on free speech apart from when there is clear and imminent danger e.g. loss of life or serious injury</p> <p>to</p> <p>Severe restrictions – e.g. on any speech causing offence to anyone.</p> <p>Most candidates will probably add – and decide on – some compromise between these two extremes, perhaps along the lines of John Stuart Mill’s claim that free speech is good and should only be stopped if it leads, or is likely to lead, to physical harm for some people. (Mere) offence and is not enough to ban free speech.</p>	3	5	18	

No.	Question	AO:	1	2	3
	<p>Where to draw the line here is very hard to determine, and the best candidates will tend to focus on this.</p> <p>Candidates should base their arguments on the relative likelihood and importance of a range of consequences – harmful and beneficial – which may arise from the options considered: for example, the stifling of scientific advance if debate and enquiry are restricted; the danger of riots or reprisals if offensive speech is allowed to go unchecked. They should also consider the options in the light of intrinsic <i>value</i>: e.g. of openness, exchange of views, freedom to explore ideas, etc., but also respect and tolerance for the opinions and feelings of others. Principles, too, may be discussed: for example whether freedom to say what one likes is a fundamental right or not; whether refraining from offence is a moral obligation, etc.</p> <p>Candidates may use arguments and information from any of the pre-release documents, and should do so critically; and / or introduce knowledge and experience of their own to support their reasoning. Given that there are so many lines of reasoning that may be taken, marks will be awarded in accordance with the following generic criteria:</p>				

### Generic Marking Guide for Question 9

<b>CRITERION:</b>	<b>Thoroughly met, and presented in clear and appropriate language</b>	<b>Satisfactorily or partially met with adequate expression</b>	<b>Inadequately met. Basic response with some weaknesses of expression / presentation</b>
<b>The candidate has:</b>			
<i>Identified and carefully assessed a range of possible consequences of competing options in terms of their importance and likelihood.</i>	6–7 Two or more consequences discussed for each option, with understanding shown of the methodology of balancing seriousness against likelihood to support a decision.	4–5 Two or more consequences discussed for each option, with some understanding shown of the methodology.	1–3 Some reference made to consequences.
<i>presented a well constructed argument giving a clear statement of the decision and reasoning based on the consequences identified and assessed.</i>	7–9 Clear decision consistent with and linked to the assessment of the consequences (3) and a well constructed argument providing support for the decision.	4–6 Clear decision consistent with the assessment of the consequences (2) and some linking argument.  OR Strong discussion with balanced verdict.	1–3 Recognisable decision (1), and some supporting argument.  OR Some discussion of issues but without a firm decision reached.
<i>taken account of relevant values and principles.</i>	5 Two or more principles / values <i>discussed</i> : e.g. relevance explained; clashes (with other principles / values or practicalities) considered; moral dilemmas raised.	3–4 One or more principle / values introduced with some development: eg. relevance explained, problems or clashes noted.	1–2 One or more principle / values introduced with little or no development.
<i>made critical use of the source materials and / or own knowledge or experience.</i>	5 Reference to two or more of the source documents and / or personal experience or knowledge with discussion of its relevance, source, reliability etc. and / or appropriate inference(s) drawn from information.	3–4 Reference to one or more of the source documents and / or personal experience or knowledge with discussion of its relevance, source, credibility, reliability, etc.	1–2 Some reference to the documents and / or own experience / knowledge but without critical engagement.

- NB Candidates are not rewarded for exhibiting additional knowledge per se, but for the use they put it to in their reasoning if they choose to introduce it. Conversely, there is no penalty for not exhibiting additional knowledge: use of the documents alone is sufficient for awarding 'good response'.



**Distribution of marks across the questions and assessment objectives for Unit 4**

<b>AO Balance</b>	<b>AO1</b>	<b>AO2</b>	<b>AO3</b>
<b>Total Section A</b>	<b>09</b>	<b>04</b>	<b>07</b>
<b>Total Section B</b>	<b>01</b>	<b>06</b>	<b>03</b>
<b>Total Section C</b>	<b>09</b>	<b>13</b>	<b>18</b>
<b>Paper Total: [70] Marks</b>	<b>19</b>	<b>23</b>	<b>28</b>
<b>Paper Total: [70] Percentage</b>	<b>27%</b>	<b>33%</b>	<b>40%</b>

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